Check List the journal of biodiversity data

NOTES ON GEOGRAPHIC DISTRIBUTION

Check List 12(2): 1853, 9 March 2016 doi: http://dx.doi.org/10.15560/12.2.1853
ISSN 1809-127X © 2016 Check List and Authors

# First records of the Wing-barred Seedeater, *Sporophila americana* (Gmelin, 1789) (Thraupidae), for Acre and a revision of its distribution in the Brazilian Amazon

**Edson Guilherme**[1*], **Diego Pedroza**[2], **David Pedroza Guimarães**[4] and **Ana Caroline Gomes de Lima**[4]

1 Universidade Federal do Acre, Centro de Ciências Biológicas e da Natureza, Laboratório de Ornitologia. Campus Universitário, BR 364, Km 04. Distrito industrial. Rio Branco, Acre, Brasil. CEP: 69.920-9002
2 Instituto de Desenvolvimento Sustentável Mamirauá, Grupo de Ecologia de Vertebrados Terrestres, IDSM/ECOVERT. Estrada do Bexiga, N° 2.584. Bairro: Fonte Boa. Tefé, Amazonas. CEP: 69.553-225
3 Universidade do Estado do Amazonas. Estrada do Bexiga, N° 1085, Bairro: Jerusalém. Tefé, Amazonas, Brasil. CEP: 69.553-225
4 Instituto de Desenvolvimento Sustentável Mamirauá, Centro Vocacional Tecnológico, IDSM/CVT. Estrada do Bexiga, N° 2.584. Bairro: Fonte Boa. Tefé, Amazonas. CEP: 69.553-225
* Corresponding author. E-mail: guilherme@ufac.br

**Abstract:** We present the first records of the Wing-barred Seedeater (*Sporophila americana*) in Acre, Brazil. These observations, together with the published records and the specimens housed in museum collections, indicate that *S. americana* occurs over a considerably larger geographical area than is currently presented in the relevant literature. The occurrence of *S. americana* in the region of São Paulo de Olivença, in the Brazilian state of Amazonas indicates the potential existence of a sympatric zone with the congener Caqueta Seedeater (*Sporophila murallae*) in the western Amazonia.

**Key words:** Aves; Amazonia; state of Acre; Caqueta Seedeater

The Wing-barred Seedeater, *Sporophila americana* (Gmelin, 1789), is a small granivorous bird of the family Thraupidae, in which the adult male is coloured black and white, and the female is brown (Stiles 1996; Jaramillo 2011). As the immature males and females of this genus present a uniform brown colouration, the taxonomy of the group is based on the characteristics of the adult male (Stiles 1996). Until the mid-20th century, many authors considered *S. americana* to be part of a polyspecific complex with two disjunct groups, including the Caqueta (*S. murallae* Chapman, 1915) and the Variable Seedeater (*S. corvina hicksii* (Lawrence, 1865) and *S. c. ophthalmmica* (Sclater, 1860)) forms from northwestern South America (Colombia, Ecuador, and Peru), and the nominal form *S. a. americana* to the east, in Venezuela, the Guianas, and northern Brazil, in the states of Amapá and Pará (Ridgely and Tudor 1994). Based on its geographic distribution and morphological differences, Stiles (1996) showed that the *S. murallae* form is distinct from the *S. americana* form, and should be considered to be a full species. Following this separation, the distribution of *S. americana* was limited to the coastal lowlands of Venezuela, Guyana, Suriname, French Guiana, and Brazil. In Brazil, the principal field guides have adopted the classification of Stiles (1996), limiting the distribution of *S. americana* to the coast of Amapá, the northern margin of the Amazon River as far west a Manaus, the lower Tapajós River, and the Negro River (Stiles 1996; Ridgely and Tudor 2009; Jaramillo 2011; IUCN 2014; Figure 1).

The plumage of *S. americana* is similar to that of *S. murallae*, the main difference being the wing of the adult male. In *S. americana*, there are two well-defined white bars, formed by the greater and lesser wing-coverts, while in *S. murallae* there is only one narrow white bar on the lesser wing-coverts, which is totally absent from the greater wing-coverts in some individuals (Jaramillo 2011). This difference in the external morphology of the two forms is considered to be a diagnostic taxonomic trait and by field guides to differentiate the species (Stiles 1996; Ridgely and Tudor 2009; Jamarillo 2011; Sigrist 2014).

The Wing-barred Seedeater inhabits open areas, where it is commonly seen in pairs or mono- or poly-specific flocks feeding on grass seeds in pastures, plantations, roadsides, the vegetation on river banks, Amazonian grassland enclaves (white sand vegetations — campinas and campinaranas), and even urban areas (Hilty and Brown 1986; Restall et al. 2006; Jamarillo 2011).

After 19 years (1996–2015), the geographic distribu-

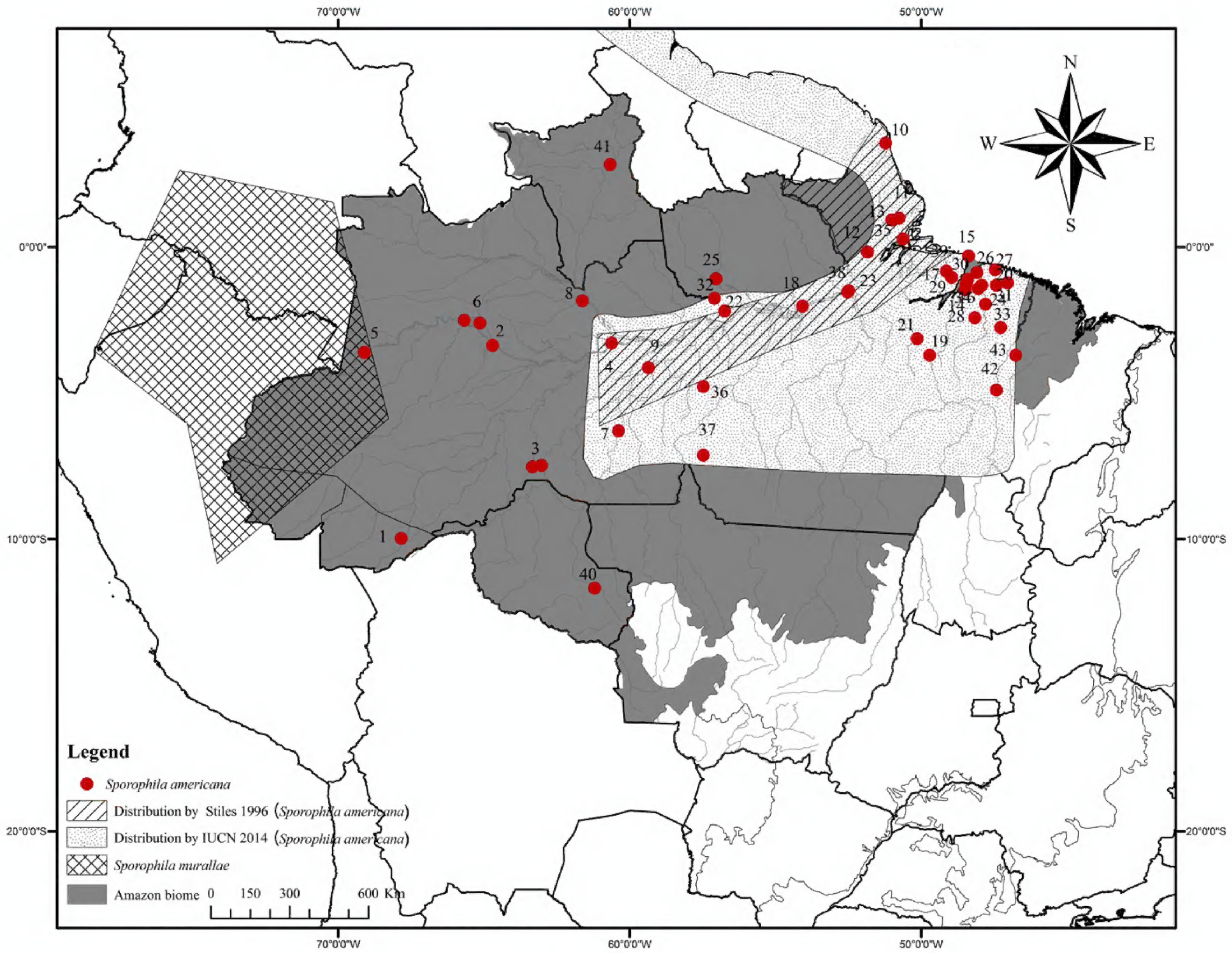


**Figure 1.** Geographic distribution of the Wing-barred Seedeater (*Sporophila americana*). The hatched area represents the distribution proposed by Stiles (1996), and the watermark, the area proposed by the IUCN (2014). The crosshatched area represents the distribution of the Caqueta Seedeater (*Sporophila murallae*). The red dots represent the localities recorded in the present study, published records, and from museum specimens, and are numbered as in Table 1.

tion of *S. americana* proposed by Stiles (1996) is still reproduced in identification guides and specialized sites (e.g., Birdlife International and International Union for Conservation of Nature). The present study aims to amend this situation through a review of the published records and specimens deposited in museums, as well as to present new records of occurrence of *S. americana* in the Brazilian Amazon basin, with the objective to refine the geographic distribution of this species in Brazil.

Historical records of the species in Brazil were obtained from a comprehensive search of the literature and the identification of specimens deposited in scientific collections. Data on the specimens deposited in North American museums were obtained from the Vertebrate database (Vertnet 2015). The data on the specimens deposited in the Goeldi Museum (Museu Paraense Emílio Goeldi: MPEG) in Belém were kindly provided by the curators in response to a formal request. The Brazilian WikiAves site (Wikiaves 2015) was also consulted with the aim of verifying the Brazilian municipalities in which *S. americana* has been photographed since 2007.

On 23 April 2015, an immature male was observed by EG near a female, assumed to be an adult, foraging in back gardens and cleared lots in the Jardim Europa neighbourhood (09°58′06.8″ S, 067°50′48.6″ W) of the city of Rio Branco, in the Brazilian state of Acre. On 17 May 2015, EG observed an adult male feeding on grass seeds in the same area (Figure 2). This individual was foraging together with a polyspecific flock formed by the Double-collared Seedeater (*Sporophila caerulescens* (Vieillot, 1823)), Lined Seedeater (*Sporophila lineola* (Linnaeus, 1758)), Chestnut-bellied Seedeater (*Sporophila castaneiventris* Cabanis, 1849), and Blue-black Grassquit (*Volatinia jacarina* (Linnaeus, 1766)). On 24 August 2015, an adult male was observed and photographed in the same neighbourhood, where it was foraging together with other species of seedeaters. These observations

**Figures 2 and 3.** The Wing-barred Seedeater (*Sporophila americana*), photographed in Rio Branco, Acre (2), and Tefé, Amazonas, Brazil (3).

represent the first records of *S. americana* in Acre, and the southwestern limit of the occurrence of the species in Brazil (Figure 1; Table 1).

As in Acre, *S. americana* has been observed frequently by DP, DPG, and ACGL in the area surrounding the town of Tefé, in the Brazilian state of Amazonas (03°22′44.40″ S, 064°42′39.96″ W). On 11 July 2015, a solitary male (Figure 3) was observed at 5:30 pm feeding on grass seeds on the outskirts of the town. On the following day, a male was observed foraging together with a female, and a third record was obtained on 19 July 2015 at 08:20 am near the location of the first two sightings. These sightings were all obtained within a 300 m radius at the outskirts of the town's urban area. These observations confirm the occurrence of the species approximately 470 km west of Manacapuru, also in Amazonas (Figure 1, number 4), the western extreme of the distribution of the species, as defined by Stiles (1996).

The literature search provided evidence of the occurrence of *S. americana* within the area predicted by Stiles (1996) and the IUCN (2014), but also indicated that the species can be found outside the range limits proposed by current field guides (Table 1). Vasconcelos (2004) first recorded *S. americana* in the Brazilian state of Maranhão, in the municipality of Açailândia, where two males were observed by audio recording. In the western extreme of the state of Pará, Guilherme (2014) recorded and collected a number of *S. americana* specimens along the margin of an alluvial forest, and in an enclave of white sand vegetation, at São Pedro, a locality located within the Amana National Forest, in the municipality of Itaituba. In the state of Amazonas, Borges et al. (2001) and Borges and Almeida (2011) recorded the species in the Jaú National Park (e.g., Seringalzinho). During a survey of the biodiversity of the middle Madeira River, Cohn-Haft et al. (2007) recorded *S. americana* in both the Madeira–Aripuanã interfluve and on floodplain islands of the Madeira River itself. Pacheco (1993) also recorded *S. americana* in anthropogenic environments, e.g., plantations, and pastures as well as islands and swamps in the Mamirauá Sustainable Development Reserve, on the northern margin of the middle Solimões River (Figure 1; Table 1).

The survey of the specimens deposited in American museums and the Brazilian Goeldi Museum (Table 1) also showed that the Wing-barred Seedeater occurs in a much larger area of the Brazilian Amazon basin than was previously thought. In 1923, S. M. Klages collected a male *S. americana* in São Paulo de Olivença, Amazonas (Table 1). This specimen (YPM ORN 031498) deposited in the Peabody Museum of Natural History (Connecticut, USA), indicates that the species was originally found in the western extreme of the state of Amazonas, approximately 1,000 km due west of the western limit of the geographic distribution of the species, as proposed by Stiles (1996) and the IUCN (2014) (Figure 1, number 5). In addition, the specimens collected in southern Amazonas (Humaitá) and in Pimenta Bueno (Rondônia), to the south, and Boa Vista (Roraima), to the north, extend considerably the known distribution of *S. americana* in Brazil (Figure 1; Table 1). Based on photographs published on WikiAves (2015), it is possible to confirm the presence of *S. americana* in several cities from northern Tocantins state (Couto Magalhães, Santa Fé do Araguaia and São Miguel do Tocantins).

The compilation of all the available data permits the redefinition of the distribution of *S. americana* in Brazil and confirms its occurrence in all states of the country's northern region (Figure 1; WikiAves 2015). The presence of the species in São Paulo de Olivença indicates that *S. americana* may occur in sympatry with *S. murallae* in the western extreme of Amazonas state (Figure 1). The evidence suggests that *S. americana* has always been present along both sides of the Solimões/Amazon river

**Table 1.** Records of the Wing-barred Seedeater (*Sporophila americana*) obtained from the present study, published literature, and museum specimens. AMNH: American Museum of Natural History; CM: Carnegie Museum of Natural History; LACM: Nattural History Museum of Los Angeles; MCZ: Museum of Comparative Zoology, Harvard University; MPEG: Museu Paraense Emílio Goeldi (Goeldi Museum), Belém, Pará (Brazil); YPM: Peabody Museum of Natural History, Yale University. The site codes correspond to those in Figure 1.

| Brazilian state/ site code (see map) | Locality | Date | Source | Type of record or catalog number | Coordinates |
|---|---|---|---|---|---|
| **Acre** | | | | | |
| 1 | Rio Branco | 17/5/2015 | Present study | Visual record | 09°58′06.8″ S, 067°50′48.6″ W |
| **Amazonas** | | | | | |
| 2 | Tefé | 20/5/1906 | AMNH | AMNH Birds Skin-514728 | — |
| 2 | Tefé | 11/7/2015 | Present study | Visual record | 03°22′44.4″ S, 064°42′39.9″ W |
| 2 | Tefé | 12/7/2015 | Present study | Visual record | 03°22′47.5′ S, 064°42′32.2″ W |
| 2 | Tefé | 19/7/2015 | Present study | Visual record | 03°22′39.9′ S, 064°42′48.2″ W |
| 3 | Humaitá | 21/9/1906 | AMNH | AMNH birds Skin-514727 | 07°28′51.6′ S, 063°01′57.3″ W |
| 4 | Manacapuru | 9/10/1925 | CM | CM Birds P105684 | 03°17′60′ S, 060°37′00.12″ W |
| 5 | São Paulo de Olivença | 14/3/1923 | YPM | YPM ORN 031498 | 03°36′49.5′ S, 069°06′39.4″ W |
| | Maraã | 10/10/1988 | Goeldi Museum | MPEG 43370 | 02°30′ S, 065°40′ W |
| 6 | Mamirauá Sustainable Development Reserve | 1993 | Pacheco, 1993 | Visual record | 02°36′53.2″ S, 065°8′28.6″ W |
| 7 | Nascente do igarapé Arauazinho | 2007 | Cohn-Haft et al. (2007) | Specimen collected | 06°17′26.1″ S, 060°23′22.9″ W |
| 3 | Humaitá | 03/11/2010 | Goeldi Museum | MPEG 71315 | 07°31′06″ S, 063°20′16″ W |
| 8 | Jaú-Seringalzinho National Park | 2011 | Borges and Almeida (2011) | Specimen collected | 01°50′49″ S, 061°37′19″ W |
| 9 | Borba | 13/9/2011 | Goeldi Museum | MPEG 73762 | 04°07′42.0′ S, 059°21′55.4″ W |
| **Amapá** | | | | | |
| 10 | Oiapoque | 19/4/1952 | Goeldi Museum | MPEG 23580 | 03°34′ N, 051°13′ W |
| 11 | Ferreira Gomes | 21/7/1955 | Goeldi Museum | MPEG 23579 | 01°00′ N, 050°45′ W |
| 12 | Mazagão | 17/1/1959 | Goeldi Museum | MPEG 16220 | 00°10′ S, 051°50′ W |
| 13 | Rio Tracajatuba | 11/7/1969 | Goeldi Museum | MPEG 29016 | 00°56′ N, 051°00′ W |
| **Pará** | | | | | |
| 14 | Belém | 04/03/1896 | Goeldi Museum | MPEG 845 | 01°27′ S, 048°29′ W |
| 15 | Soure | 19/08/1896 | Goeldi Museum | MPEG 1098 | 00°18′ S, 048°22′ W |
| 16 | São Domingos do Capim | 18/06/1897 | Goeldi Museum | MPEG 1328 | 01°57′ S, 047°47′ W |
| 17 | Cachoeira do Arari | 14/12/1905 | Goeldi Museum | MPEG 4203 | 00°49′ S, 049°08′ W |
| 18 | Monte Alegre | 16/02/1906 | Goeldi Museum | MPEG 4691 | 02°01′ S, 054°04′ W |
| 19 | Tucuruí | 03/05/1907 | Goeldi Museum | MPEG 5394 | 03°42′ S, 049°42′ W |
| 20 | Rio Quatipuru | 13/06/1908 | Goeldi Museum | MPEG 5671 | 01°18′ S, 047°25′ W |
| 21 | Baião | 09/12/1910 | Goeldi Museum | MPEG 7561 | 03°08′ S, 050°08′ W |
| 22 | Faro | 23/01/1912 | Goeldi Museum | MPEG 9137 | 02°11′ S, 056°44′ W |
| 23 | Arumanduba | 03/12/1912 | Goeldi Museum | MPEG 10363 | 01°29′ S, 052°29′ W |
| 24 | Igarapé-açu | 21/02/1918 | Goeldi Museum | MPEG 13789 | 01°25′56.9″ S, 048°02′08.2″ W |
| 25 | Rio Mapuera | 15/07/1937 | Goeldi Museum | MPEG 23576 | 01°05′ S, 057°02′ W |
| 26 | Castanhal | 09/04/1965 | Goeldi Museum | MPEG 24353 | 01°18′ S, 047°55′ W |
| 27 | Maracanã | 08/06/1965 | Goeldi Museum | MPEG 25195 | 00°46′ S, 047°27′ W |
| 28 | Tomé-açu | 21/09/1965 | Goeldi Museum | MPEG 26340 | 02°25′ S, 048°09′ W |
| 29 | Outeiro | 21/09/1968 | Goeldi Museum | MPEG 29826 | 01°15′ S, 048°27′ W |
| 30 | Vigia | 08/04/1973 | Goeldi Museum | MPEG 30642 | 00°52′ S, 048°05′ W |
| 31 | Capitão Poço | 20/10/1974 | Goeldi Museum | MPEG 31909 | 01°13′ S, 047°02′ W |
| 32 | Oriximiná | 08/09/1979 | Goeldi Museum | MPEG 34361 | 01°45′ S, 057°05′ W |
| 33 | Paragominas | 25/02/1985 | Goeldi Museum | MPEG 36997 | 02°45′ S, 047°16′ W |
| 34 | Ilha do Mosqueiro | 03/12/1988 | Goeldi Museum | MPEG 43811 | 01°06′ S, 048°24′ W |
| 35 | Chaves | 04/02/1992 | Goeldi Museum | MPEG 47633 | 00°17′ N, 050°37′ W |
| 36 | Itaituba, FLONA Amana | 05/05/2008 | Goeldi Museum | MPEG 65167/Guilherme, 2014 | 04°46′ S, 057°28′ W |
| 37 | Novo Progresso | 14/12/2009 | Goeldi Museum | MPEG 69676 | 07°07′46.4″ S, 055°43′02.7″ W |
| 38 | Almeirim | 25/09/2014 | Goeldi Museum | MPEG 79309 | 01°32′15.2″ S, 052°31′25.9″ W |
| 39 | Marajó Island | 26/10/2014 | Goeldi Museum | MPEG 80283 | 01°02′08″ S, 048°57′10.3″ W |
| **Rondônia** | | | | | |
| 40 | Pimenta Bueno | 6/6/1964 | MCZ | MCZ Orn 262774 | 11°40′01.2″ S, 061°12′11.4″ W |
| **Roraima** | | | | | |
| 41 | Boa Vista | 15/3/1963 | Los Angeles | LACM Birds 45424 | 02°50′05.7″ N, 060°40′15.6″ W |
| **Maranhão** | | | | | |
| 42 | Açailândia | 16/3/2004 | Vasconcelos (2004) | Visual record | 04°53′ S, 047°25′ W |
| 43 | Centro Novo Maranhão | 15/7/2013 | Goeldi Museum | MPEG 77012 | 03°42′12.8″ S, 46°45′44″ W |

in Amazonas and Pará states and has expanded its area of occurrence by dispersing along the main highways (e.g., the Transamazônica [BR-230], BR-364, BR-319, and BR-174) that crisscross northern Brazil.

## ACKNOWLEDGEMENTS

We thank the curators of the Goeldi Museum, Dr. Alexandre Aleixo and Ms. Fátima Lima, for kindly providing information on the specimens deposited in this museum. We also thank to the Mamirauá Sustainable Development Institute (IDSM), the Brazilian Ministry for Science, Technology and Innovation (MCTI), Bianca Bernardon for her help with the field guides, Gerson Lopes for providing one of the references that was essential for this study, and João Valsecchi for supervision and suggestions.

## LITERATURE CITED

Borges, S.H. and R.A.M Almeida. 2011. Birds of the Jaú National Park and adjacent areas, Brazilian Amazon: new species records with reanalysis of a previous checklist. Revista Brasileira de Ornitologia 19: 108–133. http://www4.museu-goeldi.br/revistabrornito/revista/index.php/BJO/article/view/4302

Borges, S.H., M. Cohn-Haft, A. Carvalhaes, M. Pereira, L.M. Henriques, J.F Pacheco and A. Whittaker. 2001. Birds of Jau National Park, Brazilian Amazon: species check-list, biogeography and conservation. Ornitologia Neotropical 12: 109–140.

Cohn-Haft, M., A.M.F. Pacheco, C.L. Bechtoldt, M.F.N.M. Torres, A.M. Fernandes, C.H. Sardelli and I.T. Macêdo. 2007. Inventário ornitológico; pp. 145–178, in: L.R. Py-Daniel, C.P. Deus, A.L Henriques, D.M. Pimpão and O.M. Ribeiro (eds.). Biodiversidade do Médio Madeira: Bases científicas para propostas de conservação, capítulo 10. Manaus: INPA.

Guilherme, E. 2014. A preliminary survey and rapid ecological assessment of the avifauna of Amana National Forest (Itaituba and Jacareacanga, Pará, Brazil). Revista Brasileira de Ornitologia 22: 1–21.

Hilty, S.L. and W.L. Brown. 1986. A guide to the birds of Colombia. Princeton, NJ: Princeton University Press. 836 pp.

IUCN (International Union for the Conservation of Nature). 2014. IUCN Red List of threatened species. Version 2015-2. Accessed at http://www.iucnredlist.org, 3 August 2015.

Jaramillo, A. 2011. Wing-barred Seedeater; pp. 650, in: J. del Hoyo, A. Elliott and D.A. Christie (eds.). Handbook of the birds of the world, vol. 16. Tanagers to New World blackbirds. Barcelona: Lynx Edicions.

Pacheco, J.F. 1993. Avifauna da estação ecológica do mamirauá: inventário, análise e considerações. Technical Report. Tefé. Sociedade Civil Mamirauá. 22 pp.

Restall, R., C. Rodner and M. Lentino. 2006. Birds of northern South America: an identification guide, vol. 1. New Haven and London: Yale University Press. 880 pp.

Ridgely, R.S. and G. Tudor. 1994. The birds of South America, vol. 1. The oscine passerines Austin: University of Texas Press. 516 pp.

Ridgely, R.S. and G. Tudor. 2009. Field guide to the songbirds of South America. The Passerines. Austin: University of Texas Press. 750 pp.

Sigrist, T. 2014. Guia de campo Avis Brasilis: Avifauna Brasileira. São Paulo, Avis Brasilis. 592 pp.

Stiles, F.G. 1996. When black plus white equals gray: the nature of variation in the variable seedeater complex (Emberizinae: *Sporophila*). Ornitologia Neotropical 7: 75–107.

Vasconcelos, M. F. 2004. First record of the Variable Seedeater (*Sporophila americana*) for the state of Maranhão, Brazil. Ararajuba 12: 145.

Vertnet. 2015. Vertebrate database. Accessed at http://www.vertnet.org, 1 September 2015.

WikiAves – a enciclopédia das Aves do Brasil. 2015. Coleiro-do-norte (*Sporophila americana*). Accessed at http://www.wikiaves.com/coleiro-do-norte, 1 September 2015.

**Author contributions:** EG recorded the species in Acre and wrote the text; DP, DPG and ACGL recorded the species in Tefé, obtained information from literature and international museums and wrote the first version of the text.

**Received:** 24 September 2015
**Accepted:** 1 March 2016
**Academic editor:** Johan Ingels